

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket No.: 150-00030  
License No.: New Mexico DM223-10  
  
Report No.: 96-02  
  
Licensee: Testing Laboratories, Inc.  
  
Facility: Testing Laboratories, Inc.  
Holloman Air Force Base  
Location: Alamogordo, New Mexico  
  
Dates: June 4 through November 5, 1996  
  
Inspector: Mark A. Shaffer, Sr. Radiation Specialist  
  
Approved By: Linda L. Howell, Chief  
Nuclear Materials Inspection and  
Fuel Cycle/Decommissioning Branch

## EXECUTIVE SUMMARY

Testing Laboratories, Inc.  
NRC Inspection Report 150-00030/96-02

This was a special, unannounced inspection to review Testing Laboratory, Inc.'s (TLI) use of portable nuclear gauges at Holloman Air Force Base (AFB) and White Sands Missile Range (WSMR), facilities where the NRC maintains jurisdiction for regulating the use of byproduct material. The inspection included a review of TLI's licensed operations, regulatory issues associated with TLI's use of portable moisture/density gauges at Holloman AFB and WSMR, and corrective actions taken by TLI to comply with applicable NRC requirements.

### Program Overview

- TLI is authorized under Radioactive Material License DM223-10, issued by the state of New Mexico, an NRC Agreement State, to possess and use sealed radioactive sources in portable moisture/density gauges at TLI's Alamogordo, New Mexico, office and at temporary job sites throughout New Mexico. TLI has worked at federal facilities which are considered areas of exclusive federal jurisdiction within the state of New Mexico on numerous occasions (Section 1).

### Personnel Monitoring, Training, Leak Tests, Inventory, and Transportation

- The inspector's review of TLI's records and interviews of personnel revealed that TLI had performed required tasks associated with the safe use of portable gauging devices.
- The inspection identified one issue which is being treated as non-cited violation. The issue involved the licensee's failure to maintain shipping papers in a location immediately accessible to drivers of vehicles transporting gauging devices (Section 2).

### Activities Conducted in NRC Jurisdiction

- TLI had performed activities using byproduct material in areas of exclusive federal jurisdiction on numerous occasions between 1991 and 1996 without authorization under either a specific or general NRC license. TLI's radiation safety officer (RSO) acknowledged that he was aware of the need to provide notification to the NRC for work performed at WSMR based on discussions with WSMR's RSO; however, he failed to provide notification for all activities performed at WSMR and Holloman AFB during the above noted period.
- The failure to obtain authorization to possess and use byproduct material at locations under NRC jurisdiction was identified as an apparent violation of 10 CFR 30.3 (Section 3).

## Report Details

### **1 PROGRAM OVERVIEW**

TLI is authorized under Radioactive Material License DM223-10, issued by the state of New Mexico, an NRC Agreement State, to possess and use sealed radioactive sources in Campbell Pacific Nuclear (CPN) moisture/density gauges at TLI's Alamogordo, New Mexico, office and at temporary job sites throughout New Mexico. The vice president of the company serves as the licensee's designated RSO. At the time of the inspection, TLI employed seven gauge users who had received appropriate radiation safety training to operate portable moisture/density gauges as required under TLI's Agreement State license. TLI possessed six portable gauging devices (CPN Models MC-1, MC-2 and MC-3), each containing sealed sources of americium-241 and cesium-137, which had been used to conduct moisture/density measurements of construction materials at temporary job sites in New Mexico.

### **2 PERSONNEL MONITORING, TRAINING, LEAK TESTS AND INVENTORY, MAINTENANCE, AND TRANSPORTATION (83822, 86740 AND 87100)**

#### **2.1 Personnel Monitoring and Training**

##### **a. Inspection Scope**

This portion of the inspection included a review of records maintained by TLI and interviews of the RSO.

##### **b. Observations and Findings**

A review of records maintained by TLI revealed that personal dosimetry devices (thermoluminescent dosimeters) had been provided to gauge users to monitor the radiation dose received by each worker. The devices had been processed and evaluated by a dosimetry vendor holding current accreditation from the National Voluntary Laboratory Accreditation Program and were exchanged at quarterly intervals. Documented accumulated radiation exposures appeared consistent with the types of activities conducted and the frequency of use of portable gauges.

The licensee had maintained a copy of training certificates for gauge users indicating that they had received the required training to safely operate portable gauging devices. The inspector noted that a training certificate for one gauge user who had used byproduct material at Holloman AFB was not on file at the time of the inspection. The RSO informed the inspector that the individual had recently been hired by TLI, and that he had confirmed that the individual had received the appropriate training from his previous employer. However, the RSO stated that TLI

had not yet received a copy of the individual's training certificate to update TLI's files.

## 2.2 Leak Tests and Inventory

### a. Inspection Scope

The inspector's review included examination of inventory and leak test records maintained by TLI and interviews of licensee personnel.

### b. Observations and Findings

TLI had conducted physical inventories at 6-month intervals to account for all sealed sources received and possessed under its Agreement State license. The RSO informed the inspector that leak tests of sealed sources were performed by the RSO every 6 months and were sent to an approved vendor for analysis.

## 2.3 Transportation

### a. Inspection Scope

The inspector's review included examination of records maintained by TLI and interviews of the RSO.

### b. Observations and Findings

Because TLI had transported portable gauging devices on public roads at federal facilities, TLI's transportation program was reviewed to determine whether portable gauges were transported in accordance with NRC and Department of Transportation (DOT) requirements. 10 CFR 71.5(a) requires that a licensee that transports licensed material outside the confines of its plant or place of use, or delivers licensed material to a carrier for transport, must comply with the applicable regulations appropriate to the mode of transport of the DOT in 49 CFR Parts 170-189.

Through discussions with the RSO, the inspector determined that TLI personnel had transported portable nuclear gauging devices to temporary jobsites (WSMR and Holloman AFB) in vehicles owned and operated by TLI. Gauges had been transported in DOT Type A Specification 7A packaging in accordance with 49 CFR 173.415, and TLI had maintained appropriate documentation of safety analyses demonstrating that special form material contained in its nuclear gauges met the requirements of 49 CFR 173.469.

The inspector also reviewed a sample of shipping papers prepared and used for packages transported to temporary jobsites on public highways during 1994-1996. It was noted that all required information was included in the shipping documents.

However, through discussion with the RSO, the inspector determined that shipping papers prepared for transportation had not been kept within an arm's reach of the driver when the gauges were being transported to jobsites. The RSO stated that shipping papers were instead routinely kept within the locked transport container housing the gauge, and that the packages were blocked and braced at the rear the transport vehicles. 49 CFR 177.817(e)(2)(i) requires that while the driver is at the vehicle's controls, shipping papers must be within his immediate reach. At the conclusion of the on-site portion of the inspection performed on June 4, 1996, the RSO committed to providing training to workers regarding the required location of shipping documents. This failure constitutes a violation of minor significance and is being treated as a non-cited violation consistent with Section IV of the NRC Enforcement Policy.

## 2.4 Conclusions

Through interviews of personnel and review of licensee records the inspector noted that the licensee appeared to have used gauging devices in a safe manner and that TLI personnel had received appropriate training. The inspector was unable to observe the licensee operate the gauging devices during this inspection. As noted above, one non-cited violation was identified involving a failure to carry shipping papers in locations readily accessible to drivers as specified in DOT regulations.

## 3 **ACTIVITIES CONDUCTED IN NRC JURISDICTION (87100, 83822, 87103)**

### 3.1 Inspection Scope

Following receipt of an NRC Form 241 in March 1996 reporting proposed activities to be performed at several federal facilities located in Agreement States in calendar year 1996, an inspection was performed at TLI's facility in Alamogordo, New Mexico, to verify that licensed activities had been conducted in accordance with applicable requirements and to ensure that operational controls were adequate to protect the health and safety of the workers and members of the general public. The inspection included a review of records maintained by TLI and correspondence submitted by TLI to the Region IV office. The inspection also included interviews with several individuals from Holloman AFB to determine the extent of activities performed by TLI within areas of exclusive federal jurisdiction at Holloman AFB.

### 3.2 Observations and Findings

As noted in Section 1 of this report, TLI is authorized to use portable moisture/density gauges under a license issued by the state of New Mexico. Although a specific or general NRC license was required to perform activities using byproduct material in areas under exclusive federal jurisdiction within an Agreement State during 1996 and in previous years, as a matter of practice the NRC has accepted a Form 241, and the applicable fee, in lieu of an application for an NRC license from Agreement State licensees seeking authorization to perform activities in

areas of exclusive federal jurisdiction within an Agreement State. Thus, the Form 241s submitted by TLI had been accepted and acknowledged by Region IV staff in accordance with NRC practice.

TLI's first notification of proposed work in areas under NRC jurisdiction was provided to the Region IV office via an NRC Form 241 dated November 21, 1991. TLI submitted the Form 241 to report proposed activities at WSMR, Holloman AFB, and Fort Bliss. In a letter dated December 9, 1991, NRC acknowledged receipt of TLI's Form 241 and the applicable fee (\$600). This letter also advised TLI that although TLI's Agreement State license was recognized as valid for the use indicated on the Form 241, the NRC could only authorize TLI's request for reciprocity through the end of calendar year 1991, and that TLI needed to resubmit a new Form 241 and the applicable fee to report activities to be conducted during subsequent years.

In a letter to the Region IV office dated December 11, 1991, TLI requested that NRC modify the Form 241 to include calendar year 1992. NRC staff responded to TLI's request by letter dated December 20, 1991, and informed TLI that the Form 241 dated November 11, 1991, could be modified without a fee only if the modification was for work activities within the same calendar year. Further, the NRC noted that if TLI wanted authorization to perform licensable activities at the specified locations in 1992, TLI needed to submit a new Form 241 and the applicable application fee. TLI submitted a letter dated December 23, 1991, stating its objection to the need to submit an additional fee for proposed activities to be conducted in 1992 and noted that the additional cost was "plainly unjust and unwarranted to say the least." TLI's December 23, 1991, letter further stated that TLI "may as well refuse TLI's services to military installations and limit the use of TLI's moisture-density meters to within state projects since NRC fees could never be recovered without a tremendous increase in cost per tests on military bases." Finally, the licensee's letter stated that TLI's RSO is "uncertain if TLI will reapply for 1992 until he can study this matter further as the costs are prohibitive," and that he would "notify NRC of his decision after the end of the year." TLI did not contact the NRC during 1992.

On October 12, 1994, TLI submitted a second Form 241 and the applicable fee (\$700) to the Region IV office to report proposed activities at WSMR, Fort Bliss and Holloman AFB. However, TLI again requested authorization to perform work during a period which overlapped calendar years. TLI requested authorization to work from October 1994 to October 1995. By letter dated October 26, 1994, Region IV acknowledged receipt of TLI's submittal and again notified TLI that the authorization was only valid until the end of calendar year 1994. The letter informed TLI that if it wished to extend authorization to work at the specified locations beyond the 1994, TLI must file another Form 241, accompanied by the required fee, for the calendar year 1995.

On March 4, 1996, TLI again submitted a Form 241 and the applicable fee (\$1,100) to the Region IV office to report proposed activities at WSMR, Fort Bliss and Holloman AFB. TLI requested authorization to work from March 4 to December 31, 1996, noting that work at the specified locations would not exceed 180 days. Region IV staff acknowledged TLI's submittal by letter dated April 23, 1996, and notified TLI that the authorization was only valid through September 30, 1996, because TLI's New Mexico license was due to expire on that date (verbal approval of TLI's request was granted on March 7, 1996). The letter further stated that TLI could send a copy of written acknowledgement from the state of New Mexico indicating receipt of a license renewal application from TLI ("deemed timely" letter) when making a clarification to the Form 241 in order to continue working at the specified locations through December 1996.

During discussions with representatives at Holloman AFB in June 1996, the inspector confirmed that TLI had used portable nuclear gauges containing byproduct material at Holloman AFB on numerous occasions during the past several years. The inspector also obtained a map from the Judge Advocate General's Office which identified areas on the base that are considered exclusive federal jurisdiction. Through discussions with representatives of the U.S. Army Corps of Engineers and contracting officials at Holloman AFB, the inspector determined that TLI had performed work at several construction sites at Holloman AFB which are considered areas of exclusive federal jurisdiction.

This information was confirmed by TLI's RSO who acknowledged that TLI had used portable moisture/density gauges at Holloman AFB between 1991 and 1996. Based on information provided by the RSO, several engineering technicians had been assigned work at Holloman AFB using portable gauges. The RSO further noted that gauges had been dispatched from TLI's office in Alamogordo, New Mexico, on nearly a daily basis but had not been stored at the base overnight. According to the RSO, TLI had performed work at Holloman AFB under contract with general contractors and under direct contract with the U.S. Army Corps of Engineers. The inspector's review of records revealed that TLI had worked at Holloman on numerous occasions during each month from 1991 through June 1996.

A review of utilization logs maintained by TLI and discussions with the RSO also confirmed that TLI had performed measurements using portable moisture density gauges at WSMR during the period 1991 to 1996. Based on TLI's utilization logs, it appeared that TLI had performed measurements using portable moisture/density gauges from February through September 1991; in January and May 1992; from July through September, and November to December 1993; from February through May, and June, August, and October 1994; in January, February, April, July, August, October and November 1995; and in January and February 1996. Work performed at WSMR during the months noted above was either not identified on Form 241s submitted by TLI or was identified on a Form 241 that requested approval to conduct activities during a period that overlapped calendar years and therefore could not be approved by Region IV staff.

TLI's RSO informed the inspector that he was aware of the requirement to file a Form 241 for work performed at Holloman AFB and WSMR, but felt that the applicable fees were cost prohibitive. The RSO stated that he could not justify paying the fees until he was certain of the profit margin which would be obtained during a particular project. The RSO also stated that he chose not to file a Form 241 and pay the associated fee until he was specifically instructed to do so by WSMR's RSO. When WSMR's RSO was made aware that TLI was performing activities at WSMR, the RSO at WSMR required that TLI present a valid Form 241 prior to performing activities involving use of radioactive materials at the range. In contrast, TLI's RSO indicated that TLI did not file a Form 241 to report work performed at Holloman AFB because representatives at Holloman AFB did not require that TLI present a valid Form 241 prior to work activities. Thus, TLI filed a Form 241 only after TLI had been awarded a contract at WSMR. When TLI did file a Form 241 with the Region IV office, Holloman AFB was identified as a proposed work location.

10 CFR 30.3 requires, in part, that except for persons exempt as provided in 10 CFR Parts 30 and 150, no person shall possess or use byproduct material except as authorized in a specific or general license issued pursuant to Title 10, Chapter 1, of the Code of Federal Regulations. TLI's failure to obtain authorization under either a specific or general license prior to conducting activities using byproduct material in areas of exclusive federal jurisdiction on numerous occasions during between 1991 and 1996 was identified as an apparent violation of 10 CFR 30.3 (150-00030/9602-01).

As noted elsewhere in this report, TLI submitted a Form 241, and the applicable fee, dated March 4, 1996, to report proposed activities at federal facilities in Agreement States, including WSMR and Holloman AFB. At the conclusion of the inspection, TLI did not identify any additional corrective actions.

### 3.3 Conclusions

An apparent violation of 10 CFR 30.3 was identified involving TLI's failure to obtain either a specific or general NRC license prior to performing activities at federal facilities determined to be areas of exclusive federal jurisdiction in the state of New Mexico. Based on discussions with TLI's RSO, it appeared that TLI was aware of the need to obtain authorization from the NRC prior to performing activities at WSMR and Holloman AFB.

## 4 **EXIT MEETING SUMMARY**

The inspector presented preliminary inspection results to TLI representatives at the conclusion of the inspection on June 4, 1996. A telephonic exit briefing was conducted on November 5, 1996. NRC staff confirmed with the licensee that no proprietary information was reviewed during the inspection.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Levi J. A. Abeyta, Vice President & General Manager, Radiation Safety Officer  
Ralph Abeyta, President and Staff/Civil Engineer

NRC

Mark R. Shaffer, Senior Radiation Specialist  
Linda L. Howell, Chief, Nuclear Materials Inspection  
and Fuel Cycle/Decommissioning Branch

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened  
150-00030/  
9602-01

APV      Failure to obtain authorization under either a specific or  
general NRC license, as required by 10 CFR 30.3, prior to  
performing activities using byproduct material in areas  
under NRC jurisdiction.

Closed

None

Discussed

NCV      Failure to carry shipping papers in locations readily  
accessible to drivers while portable nuclear gauges were  
being transported.

LIST OF ACRONYMS USED

AFB	Air Force Base
CPN	Campbell Pacific Nuclear
DOT	Department of Transportation
PDR	Public Document Room
RSO	Radiation Safety Officer
TLI	Testing Laboratories, Inc.
WSMR	White Sands Missile Range

## PREDECISIONAL ENFORCEMENT CONFERENCE AGENDA

### CONFERENCE WITH TESTING LABORATORIES, INC.

1. INTRODUCTIONS/OPENING REMARKS - NRC
2. ENFORCEMENT PROCESS - EO
3. APPARENT VIOLATIONS & REGULATORY CONCERNS - NRC
4. LICENSEE PRESENTATION - TESTING LABORATORIES, INC.
5. BREAK (10 MINUTE NRC CAUCUS IF NECESSARY)
6. RESUMPTION OF CONFERENCE
7. CLOSING REMARKS - TESTING LABORATORIES, INC.
8. CLOSING REMARKS - NRC